What is claimed is:

1. A multiple section capillary for multiplexing a plurality of samples from a plurality of spray devices, said capillary comprising:

a first section having a first channel and a sampling orifice, said first section to receive ions from a source; and

a second section having a second axial channel and an outlet;

wherein said first section is coaxially and electrically connected to said second section, and wherein said sampling orifice is moved to an optimum position for the sampling of ions from a particular sprayer.

2. A capillary according to claim 1, wherein said second section is greater in length than said first section.

3. A capillary according to claim 1, wherein said first section is comprised of a flexible material such that said sampling orifice of said first section can move freely to multiple ion producing means.

4. A capillary according to claim 1, wherein said plurality of spray devices are selected from the group consisting of: electrosprayers, nanosprayers, microsprayers and pneumatic sprayers.

5. A capillary according to claim 1, wherein said first section is connected to said second section via a union.

6. A capillary according to claim 1, wherein said capillary connects an ion source region and a mass analyzer region.

7. An apparatus for multiplexing a plurality of samples from a plurality of sprayers, said apparatus comprising:

a multiple section capillary having first and second sections;

a motor;

a connecting rod;

a sampling device having at least one aperture; and

an endcap electrode;

wherein said first section has at least one sampling orifice, wherein an exit end of said first section is coaxially and electrically connected to said second section, wherein said sampling device is mounted on said motor using said connecting rod, wherein said endcap electrode directs heated drying gas toward said samples, and wherein said motor rotates said sampling device such that ions from each of said plurality of sprayers may be introduced into said sampling orifice when said aperture and said sampling orifice are aligned with said sprayers.

8. An apparatus according to claim 7, wherein said first section is constructed from flexible material.

9. An apparatus according to claim 7, wherein said sampling orifice leads directly into a first vacuum region.

10. An apparatus according to claim 7, wherein said sampling device is conical.

11. An apparatus according to claim 7, wherein said apparatus sequentially and repetitively samples said ions from said plurality of sprayers.

12. An apparatus according to claim 7, wherein an electric potential is established between said endcap electrode, said aperture and said plurality of sprayers to facilitate transportation of ions into said sampling device.

13. An apparatus according to claim 7, wherein said sampling device has a plurality of apertures and wherein the number of apertures in said endcap corresponds to the number of said sprayers being utilized.

14. An apparatus according to claim 7, wherein said rotation of said sampling device is continuous.

15. An apparatus according to claim 7, wherein said rotation of said sampling device is periodic such that more time is spent sampling said ions than is spent rotating said sampling device.

16. An apparatus according to claim 7, wherein movement of said sampling device is controlled by an electronic controller.

17. An apparatus according to claim 7, wherein said plurality of sprayers are mounted symmetrically around an axis of said sampling device such that the positioning of said sampling device is substantially the same with respect to each of said plurality of sprayers.

18. An apparatus according to claim 7, wherein the shape of said first section of said multiple capillary device substantially conforms to said aperture of said sampling device such that said sampling device may rotate around said first section.

19. An apparatus according to claim 7, wherein said apparatus further comprises a feedback device.

20. An apparatus according to claim 19, wherein said feedback device comprises at least one LED and at least one photodiode.

21. An apparatus according to claim 20, wherein said LEDs and said photodiodes are positioned to detect alignment of said sampling orifice with said sprayers.

22. An apparatus according to claim 7, wherein said apparatus is used to introduce ions into one or more mass analyzers for subsequent analysis.

23. An apparatus according to claim 22, wherein said mass analyzers are selected from the group consisting essentially of a time-of-flight (TOF) mass analyzer, quadrupole (Q) mass analyzer, Fourier transform ion cyclotron resonance (FTICR) mass analyzer, ion trap mass analyzer, magnetic (B) mass analyzer, electrostatic (E) mass analyzer, ion cyclotron resonance (ICR) mass analyzer, and quadrupole ion trap mass analyzer.

24. An apparatus for multiplexing a plurality of samples from a plurality of sprayers, said apparatus comprising:

a multiple section capillary having first and second sections;

a motor;

a connecting rod; and

a sampling device having at least one aperture;

wherein said first section has at least one sampling orifice, wherein an exit end of said first section is coaxially and electrically connected to said second section, wherein said sampling device is mounted on said motor using said connecting rod, and wherein said motor rotates said sampling device such that ions from each of said plurality of sprayers may be introduced into said sampling orifice when said aperture and said sampling orifice are aligned with said sprayers.

25. An apparatus according to claim 24, wherein said first section is constructed from flexible material.

26. An apparatus according to claim 24, wherein said sampling orifice leads directly into a first vacuum region.

27. An apparatus according to claim 24, wherein said sampling device is conical.

28. An apparatus according to claim 24, wherein said apparatus sequentially and repetitively samples said ions from said plurality of sprayers.

29. An apparatus according to claim 24, wherein said sampling device has a plurality of apertures.

30. An apparatus according to claim 24, wherein said rotation of said sampling device is continuous.

31. An apparatus according to claim 24, wherein said rotation of said sampling device is periodic such that more time is spent sampling said ions than is spent rotating said sampling device.

32. An apparatus according to claim 24, wherein movement of said sampling device is controlled by an electronic controller.

33. An apparatus according to claim 24, wherein said plurality of sprayers are mounted symmetrically around an axis of said sampling device such that the positioning of said sampling device is substantially the same with respect to each of said plurality of sprayers.

34. An apparatus according to claim 24, wherein the shape of said first section of said multiple capillary device substantially conforms to said aperture of said sampling device such that said sampling device may rotate around said first section.

35. An apparatus according to claim 24, wherein said apparatus further comprises a feedback device.

36. An apparatus according to claim 35, wherein said feedback device comprises at least one LED and at least one photodiode.

37. An apparatus according to claim 36, wherein said LEDs and said photodiodes are positioned to detect alignment of said sampling orifice with said sprayers.

38. An apparatus according to claim 24, wherein said apparatus is used to introduce ions into one or more mass analyzers for subsequent analysis.

39. An apparatus according to claim 38, wherein said mass analyzers are selected from the group consisting essentially of a time-of-flight (TOF) mass analyzer, quadrupole (Q) mass analyzer, Fourier transform ion cyclotron resonance (FTICR) mass analyzer, ion trap mass analyzer, magnetic (B) mass analyzer, electrostatic (E) mass analyzer, ion cyclotron resonance (ICR) mass analyzer, and quadrupole ion trap mass analyzer.

40. An apparatus for multiplexing a plurality of samples from a plurality of sprayers, said apparatus comprising:

a multiple section capillary having first and second sections; and

a sampling device having at least one aperture;

wherein said first section has at least one sampling orifice, wherein said first section is coaxially and electrically connected to said second section, wherein said sampling device receives ions from each of said plurality of sprayers, and wherein said aperture is in line with said sampling orifice at each of said plurality of sprayers.

41. An apparatus according to claim 40, wherein said apparatus further comprises a plurality of sampling orifices, wherein all of said sampling orifices receive said ions and transport said ions to said second section.

42. An apparatus according to claim 40, wherein said sampling device is conical.

43. An apparatus according to claim 40, wherein said apparatus sequentially and repetitively samples said ions from said plurality of sprayers.

44. An apparatus according to claim 40, wherein said plurality of sprayers are mounted symmetrically around an axis of said sampling device such that the positioning of said sampling device is substantially the same with respect to each of said plurality of sprayers.

45. An apparatus according to claim 40, wherein the shape of said first section of said multiple capillary device substantially conforms to said apertures of said sampling device.

46. An apparatus according to claim 40, wherein said apparatus further comprises a feedback device.

47. An apparatus according to claim 46, wherein said feedback device comprises at least one LED and at least one photodiode.

48. An apparatus according to claim 47, wherein said LEDs and said photodiodes are positioned to detect alignment of said sampling orifice with said sprayers.

49. An apparatus according to claim 40, wherein said apparatus is used to introduce ions into one or more mass analyzers for subsequent analysis.

50. An apparatus according to claim 49, wherein said mass analyzers are selected from the group consisting essentially of a time-of-flight (TOF) mass analyzer, quadrupole (Q) mass analyzer, Fourier transform ion cyclotron resonance (FTICR) mass analyzer, ion trap mass analyzer, magnetic (B) mass analyzer, electrostatic (E) mass analyzer, ion cyclotron resonance (ICR) mass analyzer, and quadrupole ion trap mass analyzer.

51. An endcap electrode for use with a multiple section capillary for multiplexing a plurality of samples from a plurality of sprayers, said endcap comprising:

a circular electrode having a central aperture; and

at least one slit extending radially from said central aperture for aligning with said plurality of sprayers;

wherein said endcap is mounted over a sampling orifice of a capillary tube, and wherein said endcap directs heated drying gas through said slits to dry droplets sprayed by said plurality of sprayers.

52. An endcap electrode according to claim 51, wherein an electric potential is applied uniformly between said endcap, said sampling orifice, and each of said plurality of sprayers to facilitate direction of ions into said sampling orifice.

53. An endcap electrode according to claim 51, wherein said endcap electrode further comprises a plurality of slits extending radially from said central aperture, and wherein each of said slits is positioned adjacent to one of said plurality of sprayers.

54. An improved method for multiplexing a plurality of samples from a plurality of sprayers into a mass analyzer through a multiple section capillary device to independently optimize the performance of each sprayer, said method comprising the steps of:

forming sample spray droplets from a plurality of sprayers;

desolvating said droplets in an electric field to form sample ions;

selecting said sample ions to be transported into said mass analyzer; and

transporting said sample ions into said mass analyzer through said multiple section capillary device.

55. An improved method according to claim 54, wherein said plurality of sprayers include ESI sprayers.

56. An improved method according to claim 54, wherein said plurality of sprayers include electrosprayers and pneumatic sprayers.

57. An improved method according to claim 54, wherein an endcap electrode directs heated drying gas onto said droplets to desolvate said droplets to form said sample ions.

58. An improved method according to claim 54, wherein said sample ions are selected by the positioning of said multiple section capillary device.

59. An improved method according to claim 54, wherein at least one sampling device is used to select said sample ions.

60. An improved method according to claim 59, wherein said sampling devices are cylindrical.

61. An improved method according to claim 59, wherein said sampling device is planar to select said sample ions from said plurality of sprayers in a planar arrangement.